

Remarks

Applicants are submitting this Response with a check and petition for a one month extension of time. Should there be any outstanding fees not covered by the enclosed check, Applicants authorize the Examiner to charge account number 19-4516.

The Examiner objected to claims 1-16 under 35 U.S.C. §112 as being indefinite. Applicable claims were amended to overcome the rejections. Applicants submit no amendment to claim 2 is needed because the two substrates may be in contact with one another, end to end, and yet still consist of two substrates.

To address the Examiner's inquiry as to which reference number, 52, 62, or 30, is the electrolytic material. Applicants submit that all of them are made of an electrolytic material but have varying locations within the sensor. 52 is the electrolytic material on electrode 22. 62 is the electrolytic material on electrode 72. And 30 is the electrolytic material extending from sensing electrodes of each sensor cell to the reference and/or counter electrodes. The electrolyte solution is reference number 84. All of the above are consistently referenced throughout the specification.

The Examiner rejected to claims 1, 2, 5, 9-11 under 35 U.S.C. §102 as being anticipated by Patent No. 5,716,506 ("Maclay").

Claims 1 and 9 require a first cell and a second cell where each cell has a substrate, a sensing electrode and a counter electrode deposited on the substrate, an electrolytic material extending from the sensing electrode to the counter electrode, a reservoir on a side of the electrolytic material opposite the substrate, and a solution in the reservoir for hydrating the electrolytic material.

Maclay does not disclose, teach, or suggest a reservoir on a side of the electrolytic material opposite the substrate or a solution in the reservoir for hydrating the electrolytic material. Maclay also does not disclose, teach, or suggest a electrolytic material extending from a sensing electrode to a counter electrode. There is no figure or description in Maclay as to a reservoir or solution, nevermind a reservoir on a side of the electrolytic material opposite the substrate. Hence, Maclay teaches away from Applicants' invention.

Moreover, it would not be obvious for Maclay to even consider the use of a reservoir or a solution in the reservoir because Maclay lacks any electrolytic material to be hydrated. The purpose of a reservoir is to hold solution needed to wet an electrolytic material. Without any electrolytic material to be wetted, there would not be a need to modify Maclay to include a reservoir or solution.

Because Maclay does not anticipate all elements of Applicants' claims 1 and 9, claims 1 and 9 should be allowed. Similarly, the dependent claims depending from claims 1 and 9 should also be allowed.

The Examiner rejected to claim 16 under 35 U.S.C. §103 as being unpatentable over Maclay, with or without U.S. Patent No. 4,900,405 ("Otagawa"), in view of U.S. Patent No. 4,525,704 ("Campbell") or U.S. Patent No. 4,172,770 ("Semersky") and U.S. Patent No. 647,364 ("Mase").

None of the above references teach or suggest a first sensing electrode and a second sensing electrode both sharing a common electrode that acts as both a counter and a reference electrode, as shown in Applicants' figure 4b and claimed in Applicants' claim 16.

Maclay relates to a sensing cell and a reference cell, each having a sensing electrode, reference electrode, and counter electrode.

Mase relates to a single sensor cell, having a sensing electrode and a reference electrode. See figure 2. In other embodiments, two sensor cells are disclosed, each cell having two electrodes for a total of four electrodes (see Abstract and col. 9, lines 45-48), similar to Maclay. Neither of the four electrodes in Mase shares a common reference/counter electrode as claimed in Applicants' claim 16.

In fact, both Maclay and Mase teach away from Applicants' invention by teaching a pair of sensor cells where each cell has at least two electrodes, one sensing and one reference, and each cell takes a measurement and the difference between the two measurements are analyzed. No where in any reference or combination of references does the Examiner cite two sensing electrodes and a common electrode that acts as both a counter and a reference electrode. Such structure is not obvious absent some modification to the references.

Based on the above teachings for two sensor cells where each cell has sensing and reference electrodes, Applicants submit that such a modification would involve a complete redesign of the prior art to arrive at Applicants' invention. One reference electrode from Maclay or Mase would need to be eliminated and the remaining reference electrode would need to be adapted to be in communication with both sensing electrodes from both cells. Then the remaining reference electrode would need to be able to act as a counter electrode to both sensing electrodes. Such changes can hardly be argued to be inconsequential.

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Based on the foregoing, Applicants submit claim 16 is allowable over the cited references.

Respectfully submitted,



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